



**CERTIFICADO DE CALIDAD
INSPECTION CERTIFICATE**
(DIN EN 10204:2004E - ISO 10474 3.1.B)

Tubos de Acero de México, S.A.
Carr. Mty-Laredo Km 24.2
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Vendido a:	PLESA ANAHUAC Y CIA. S.A. DE C.V.	Pedido del Cliente No:	5624	Lista de Empaque:	11187	Fecha/Date:	16 de Enero de 2009
Sold to:		Customers Order No:		Packing List:			
Especificaciones y Grados / Standard or Specification and Steel Grade				Dimensiones y tolerancias / Dimension and tolerances			
Seamless fittings according to ASTM A 234 "W" WPB-07, A234 "W" WPB-05a, NACE MR 0175-2003				ASME B 16.9 - 2007 and ASME B 16.28 - 1994			
Conform to ASME II Ed. 2001 ASME SA-234 "W" Grade WPB, NACE MR0103-2003				Bocas / Ends Beveled / Bevelled ends			

ART. ITEM	COLADA HEAT CODE	CANTIDAD QUANTITY	DESCRIPCION / DESCRIPTION	PRUEBAS MECANICAS / MECHANICAL TEST				PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C				
				ESF. CEDENCIA YIELD STRENGTH (Mpa)	ESF. RUPURA TENSILE STRENGTH (Mpa)	ELONG. %2"	DUREZA HARDNESS HBW	DIMENSIONES SAMPLE DIM mm	1 Joules	2 Joules	3 Joules	PROMEDIO AVERAGE Joules
1	T40846	1	TEE RED. 10 X 8 CED-STD	306	477	34	125					
2	T41140	1	TEE RED. 10 X 8 CED-STD	337	508	40	126					
3	T41415	2	TEE RED. 10 X 8 CED-STD	307	489	45	120					
4	S22920	1	CODO 6 X 90° R.C. CED-STD	299	459	34	114					
5	S31159	19	CODO 6 X 90° R.C. CED-STD	308	499	36	119					
6	T42101	82	CODO 6 X 90° R.I. CED-STD	263	504	33	107					
7	T40182	1	CODO 6 X 90° R.I. CED-STD	323	490	39	122					
8	T41224	4	CODO 6 X 90° R.I. CED-STD	288	460	34	125					
9	T40745	1	CODO 6 X 90° R.I. CED-STD	285	473	33	100					
10	T39507	17	CODO 6 X 90° R.I. CED-STD	269	436	34	104					
11	T42081	36	CODO 6 X 90° R.I. CED-STD	310	505	33	102					

PROCESO PROCESS	COLADA HEAT CODE	COLADA/HEAT M.P/MOTHER PIPE	ANALISIS QUIMICO / CHEMICAL ANALYSIS											
			%C.E.	%C	%Mn	%P	%S	%Si	%Cr	%Cu	%Mo	%Ni	%V	%Nb
HF	T40846	40846	0.310	0.190	0.650	0.010	0.003	0.300	0.040	0.048	0.012	0.020	0.001	0.000
HF	T41140	41140	0.320	0.180	0.800	0.010	0.002	0.290	0.020	0.044	0.004	0.020	0.000	0.000
HF	T41415	41415	0.310	0.170	0.780	0.009	0.001	0.270	0.030	0.046	0.004	0.020	0.000	0.000
HF	S22920	22920	0.310	0.180	0.730	0.012	0.001	0.280	0.030	0.031	0.010	0.036	0.001	0.002
HF	S31159	31159	0.340	0.200	0.760	0.014	0.001	0.270	0.040	0.046	0.010	0.014	0.001	0.001
HF	T42101	42101	0.300	0.170	0.690	0.008	0.002	0.310	0.050	0.046	0.016	0.030	0.000	0.000
HF	T40182	40182	0.320	0.180	0.690	0.015	0.002	0.280	0.060	0.064	0.009	0.030	0.000	0.000
HF	T41224	41224	0.300	0.170	0.650	0.015	0.001	0.280	0.050	0.051	0.018	0.030	0.000	0.000
HF	T40745	40745	0.300	0.170	0.670	0.009	0.002	0.280	0.040	0.044	0.006	0.020	0.000	0.000
HF	T39507	39507	0.300	0.170	0.680	0.011	0.001	0.280	0.060	0.059	0.012	0.030	0.000	0.000
HF	T42081	42081	0.300	0.170	0.690	0.010	0.001	0.260	0.050	0.056	0.013	0.030	0.000	0.000

Notas:
Formado en caliente a 620°C-980°C, enfriado al aire. Formado en frío normalizado a 940°C max. Cold formed normalized at 940°C max.
Holding time 10".
Inspección Dimensional. Satisfactoria. Visual dimensional check. Satisfactory.
CF- FORMADO EN FRIO/COLD FORMED

Notas:
Hot formed fittings in a range from 620°C to 980°C, cooled in still air.
Cold formed normalized at 940°C max.
Holding time 10".
Visual dimensional check. Satisfactory.
CF- FORMADO EN FRIO/COLD FORMED

PRUEBAS MECANICAS / MECHANICAL TEST
Certificamos que los resultados de los Analisis Quimicos y Pruebas Mecanicas son verdaderos o una copia fiel de los certificados enviados por el Fabricante y/o el proveedor de Materia Prima (Tubería Sin Costura) conforme ASTM A106 Grado B con N°. We certify that result of chemical analysis and mechanical test are true and correct. copy of the test certificate issued by the manufacturer and/or supplier Raw material (Seamless Pipe) cents conform to ASTM A106 Grade B N°. 8050709 8070067 8070076 387179 459616 8065073 8040365 8054655 8045556 8036422 8057845

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C
Este material cumple con los requerimientos especificados en la orden.
The material of this certificate heat number mentioned above is in compliance with the requirements specified in the order.

PRUEBA DE IMPACTO 0°C / IMPACT TEST 0°C
The Products described herein were produced in accordance with the above referenced specification and are identified with the "R" which is permanently marked on each fitting. The values of hardness for fittings NPS 2 1/2" and smaller ones obtain from the conversion of hardness Brinell HBW by means of table WILSON DESK CHART 60. Los valores de dureza para conexiones de NPS de 2 1/2" y menores, se obtienen de la conversión de dureza Rockwell B a dureza Brinell HBW mediante la tabla WILSON DESK CHART 60.